GB/UK

QUASAR **(R404a)**

**TECHNICAL SERVICE MANUAL**

ICE CUBE MAKERS

MODELS:

| | |
|---|---|
| QUASAR 20 C | |
| QUASAR 30 C | **104203** |
| QUASAR 40 C | |
| QUASAR 40S C | |
| QUASAR 50 C | **104205** |
| QUASAR 60 C | |
| QUASAR 90 C | **104208** |
| QUASAR 130 C | |
| QUASAR 150 C | **104215** |

MODULARS:

MQ 200

**CAREFULLY READ THE INSTRUCTIONS CONTAINED IN THIS MANUAL SINCE THEY PROVIDE IMPORTANT INFORMATION RELATIVE TO SAFETY DURING INSTALLATION, USE, AND MAINTENANCE.**

**EDITION:**

NOVEMBER 2001.

COD: QU02MTIN.DOC

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**INTRODUCTION**

Thank you for choosing QUASAR-C ice cube makers.

You have purchased one of the most reliable ice-making products on the market today. Carefully read the instructions contained in this manual since they provide important information relative to safety during installation, use, and maintenance.

***WARNINGS***

This appliance should be installed by approved Technical Service Personnel.

This plug should be accessible at all times.

To reduce the risk of electrical shock, ALWAYS disconnect the machine BEFORE cleaning or maintaining the equipment. Do not attempt to install, service, or modify this machine. Improper use by other than specially trained technicians is extremely dangerous and may result in a fire or electric shock.

This machine should not be placed outdoors or exposed to rain.

Connect to drinking water mains.

This appliance is not intended for use by young children or infirm persons without supervision.

Young children should be supervised to ensure that they do not play with the appliance.

**IMPORTANT!**

**• DO NOT ATTEMPT TO SERVICE THIS MACHINE AS IT IS DANGEROUS AND COULD CAUSE SEVERE DAMAGE TO THE UNIT.**

**•SERVICE SHOULD ONLY BE CARRIED OUT BY TRAINED, CERTIFIED PERSONNEL.**

**•WE STRONGLY RECOMMEND USING ONLY ORIGINAL REPLACEMENT PARTS AVAILABLE FROM AN AUTHORIZED DISTRIBUTOR.**

**•WASTE AND OTHER MATERIAL SHOULD BE DISPOSED OF ACCORDING TO LOCAL REGULATIONS AND PROCEDURES FOR WASTE DISPOSAL.**

**•CLEANING AND MAINTENANCE ARE NOT COVERED BY THE WARRANTY.**

## DESCRIPTION

The QUASAR-C ice cubes maker is the result of years of experience in this field and the development of a high technology factory.

*Main Features*

- Storage bin made of polyester strengthened with glass fibre or ABS
- Stock bin made of high resistance plastic materials
- Polyurethane insulation injected “IN SITU”
- Heavy duty door (pat.) except Q 20-30 y MQ 200.
- Agitator motor for continuous service
- Tough cam motor (50 Kg/cm)
- Safety device and clutch for the water pan preventing its breakage during the upward cycle, (pat.)
- Machine stoppage and water pan protection during the downward cycle, (pat.)
- The stock ice is the maximum than it could be thanks to the stop machine system.
- Low noise
- High pressure safety pressostats even in air-cooled machine.
- Large condensers (work well at high ambient temperatures; and reduce cooling water consumption in water-cooled machines).
- Clear cubes.
- Ices Cubes can be adjusted (height and diameter).
- Easy to maintain and repair.

### HOW IT WORKS

When the machine is switched on the compressor and the agitator motor start, the water entry valve opens and allows water into the production pan up to a level where the float makes a micro-switch cut the current to the valve and so stop water entering the tray. The compressor, controlled by capillaries produces enough cold in the evaporator to gradually freeze the water around its “fingers”.

When the ice so formed reaches the proper size the paddles of the agitator are stopped and its motor, suspended, works the end of cycle micro-switch.

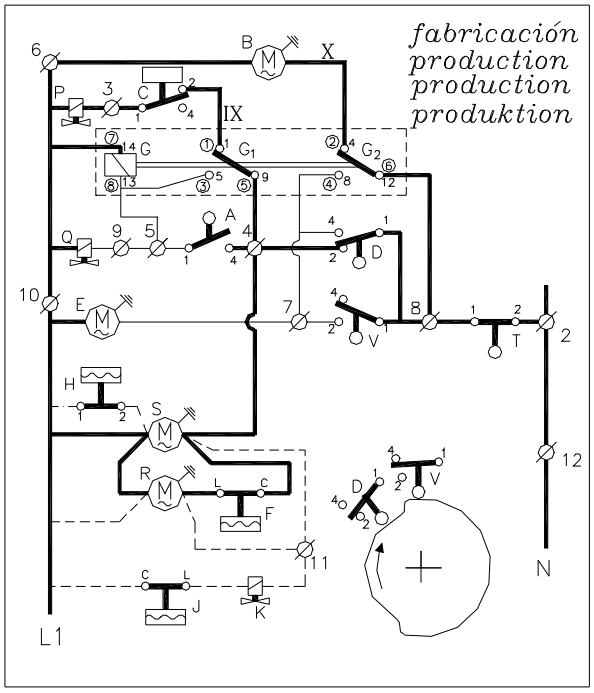
This micro-switch connects the relay that starts the cam motor. When the micro-switch has fallen, opens the hot gas valve and stops the agitator motor. The compressor continues working for another 20”, then stops, and the agitator motor is connected. The cam motor starts to move downwards, making part of the surplus water flow to the drain, and dropping the ice cubes, pushed by the ejection plate into the storage bin.

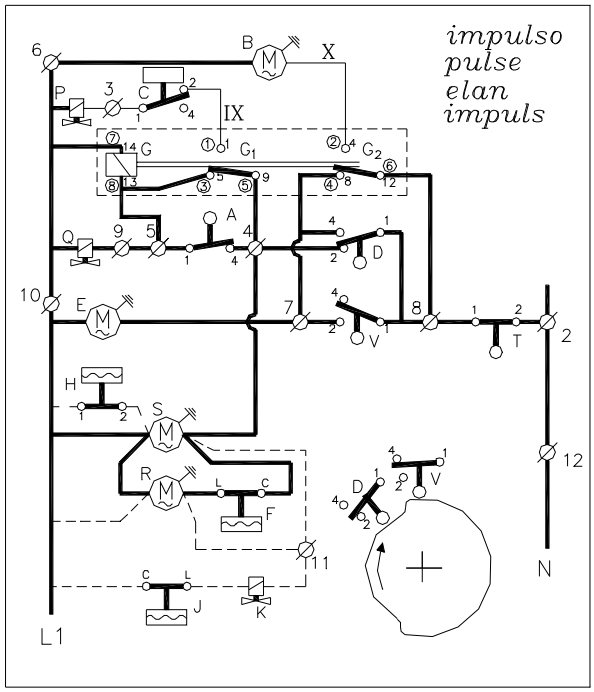
The pan eventually gets back to its initial position and so starts another production cycle.

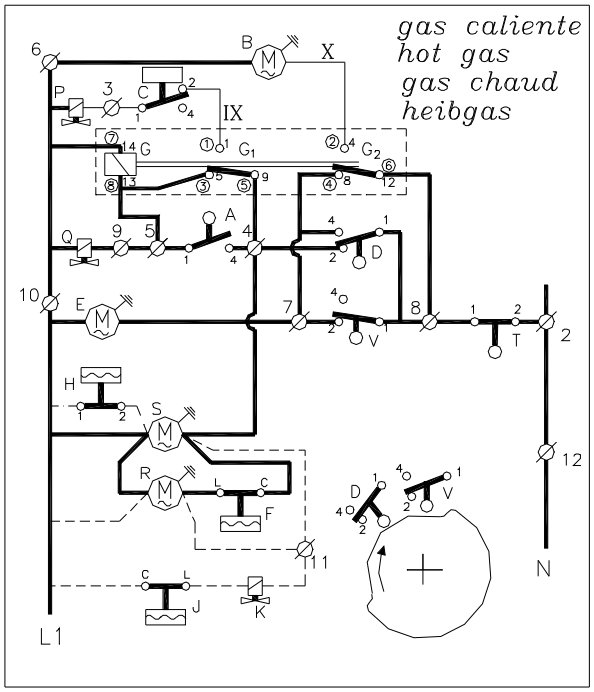
Once the storage bin is full the pan stops in its downward movement as it touches the cubes, so working the safety stop micro-switch and switching off the machine. Production will start again as soon as the cubes which detained it move or are removed.

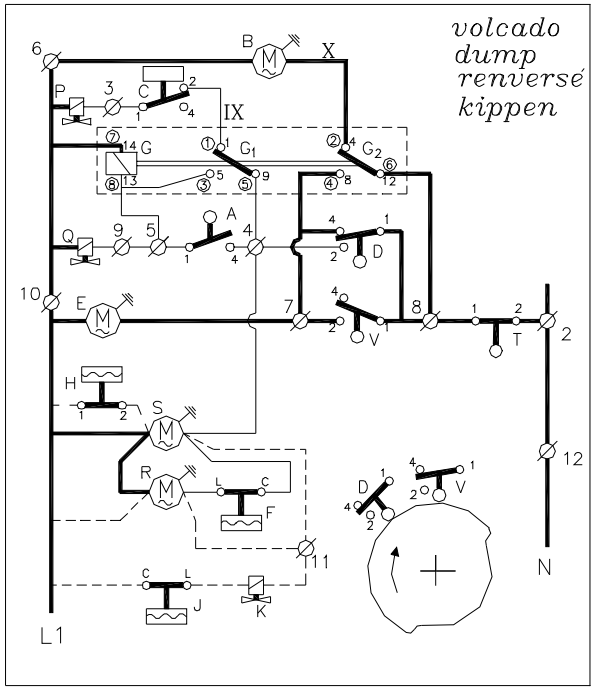
Quasar

fases de funcionamiento
working stages
phases de fonctionement
arbeitsspiel



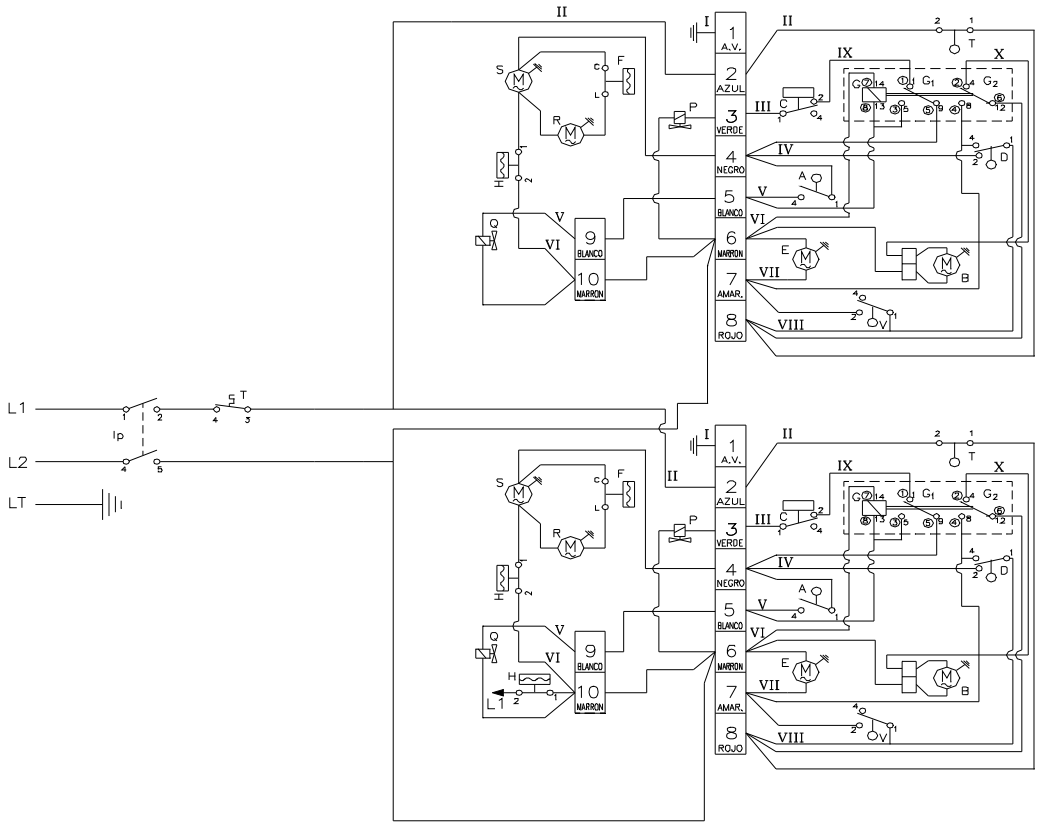



# Quasar MQ200

ESQUEMAS ELECTRICOS / ELECTRIC DIAGRAM
ELEKTRISCHER SCHALTPLAN / SCHEMAS ELECTRIQUES



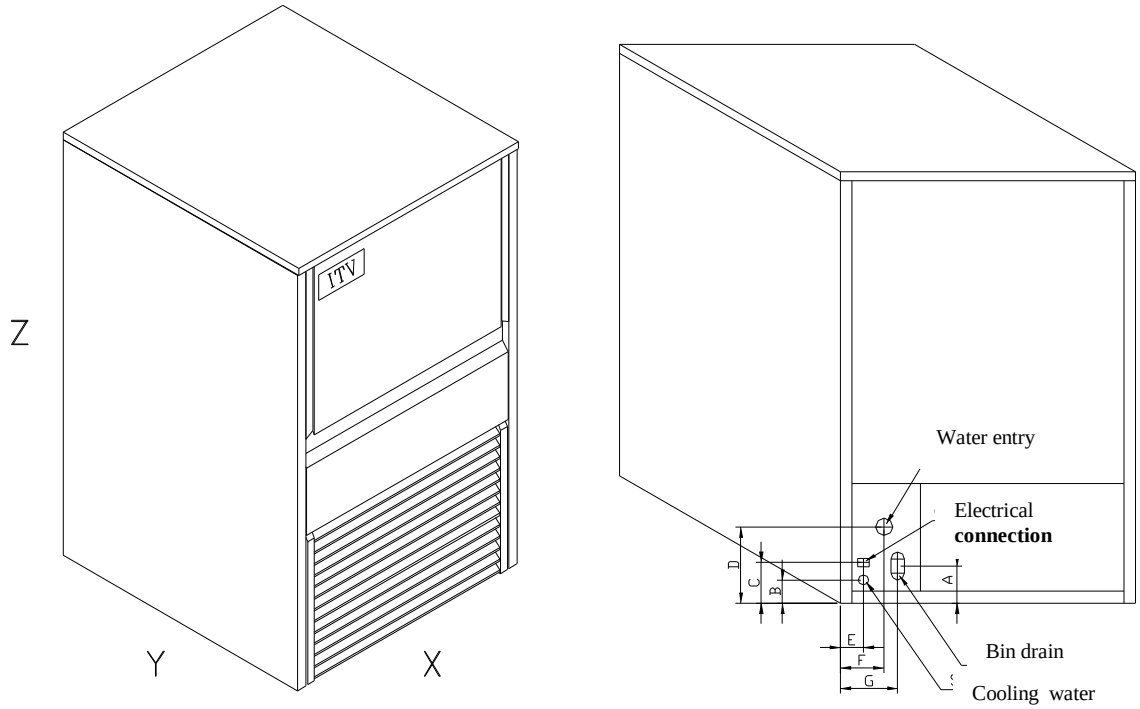

| COLORES | COLOURS | FARBE | COULEURS |
|---|---|---|---|
| I AMARILLO–VERDE | I YELLOW–GREEN | I GELB–GRUN | I JAUNE–VERT |
| II AZUL | II BLUE | II BLAU | II BLEU |
| III VERDE | III GREEN | III GRUN | III VERT |
| IV NEGRO | IV BLACK | IV SCHWARZ | IV NOIR |
| V BLANCO | V WHITE | V WEIß | V BLANC |
| VI MARRON | VI BROWN | VI BRAUN | VI MARRON |
| VII AMARILLO | VII YELLOW | VII GELB | VII JAUNE |
| VIII ROJO | VIII RED | VIII ROT | VIII ROUGE |
| IX GRIS | IX GREY | IX GRAU | IX GRIS |
| X VIOLETA | X VIOLET | X VEILCHEN | X VIOLET |

| COMPONENTES | COMPONENTS | EINZELTEILE | COMPOSANTS |
|---|---|---|---|
| A MICRO IMPULSO | A DRIVE MICRO–SWITCH | A IMPULS SCHALTER | A MICRO–D'IMPULSION |
| B MOTOR AGITADOR | B PADDLE MOTOR | B VIBRATIONSMOTOR | B MOTEUR AGITATEUR |
| C MICRO FLOTADOR | C FLOAT MICRO–SWITCH | C SCHWIMMER–SCHALTER | C MICRO–FLOTTEUR |
| D MICRO VOLTEADOR BANDEJA | D PAN CAM MICRO–SWITCH | D UMDREHER–SCHALTER | D MICRO–COMMANDE BASCULE |
| E MOTOR VOLTEADOR BANDEJA | E PAN CAM MOTOR | E UMDREHER–MOTOR | E MOTEUR BASCULEUR |
| F PRESOSTATO VENTILADOR(SOLO AIRE) | F FAN PRESOSTAT (AIR) | F DRUCKSCHALTER FUR KONDENSATORLUFTER(LUFT) | F PRESOSTAT VENTILATION (AIR) |
| G RELE | G RELAY | G RELAIS | G RELAIS |
| P ELECTROVALVULA AGUA | P WATER ELECTROVALVE | P WASSER VENTIL | P ELECTROVANNE EAU |
| Q ELECTROVALVULA GAS CALIENTE | Q HOT GAS ELECTROVALVE | Q GAS VENTIL | Q ELECTROVANNE GAS CHAUD |
| R MOTOR VENTILADOR | R FAN MOTOR | R VENTILATORMOTOR | R MOTEUR VENTILATEUR |
| S COMPRESOR | S COMPRESSOR | S KOMPRESSOR | S COMPRESSEUR |
| T MICRO PARADA MAQUINA | T MACHINE STOP MICRO–SWITCH | T AUS–SCHALTER | T MICRO–ARRET |
| V MICRO SEGURIDAD VOLTEADOR | V CAM SAFETY MICRO–SWITCH | V SICHERHEITSSCHALTER–UMDREHER | V MICRO–SECURITE |
| H PRESOSTATO DE SEGURIDAD(SOLO AGUA) | H SAFETY PRESOSTAT (WATER) | H SICHERHEITS–PRESSOSTAT(WASSER) | H PRESOSTAT DE SECURITE (EAU) |
| J PRESOSTATO CONDENSACION(Q20≃34 AGUA) | J CONSENSATION PRESOSTAT(Q20≃34 WATER) | J PRESSOSTAT–KONDENSATOR(Q20≃34 WASSER) | J PRESOSTAT CONDENSATION(Q20–34 EAU) |
| K ELECTROV.CONDENSACION(Q20≃34 AGUA) | K CONDENSATION ELECTROVALVE(Q20≃34 WATER) | K DREIWEGEVENTIL(Q20≃34 WASSER) | K ELECTROVANNE CONDESATION(Q20–34 EAU) |
| L COND.FILTRO | L RADIO DISTURB.CONDENSER | L FUNK–INTERFERENZ KONDENSATOR | L CONDENSATEUR ANTI–INTERFER. |

VALIDO DESDE 11–07–2003

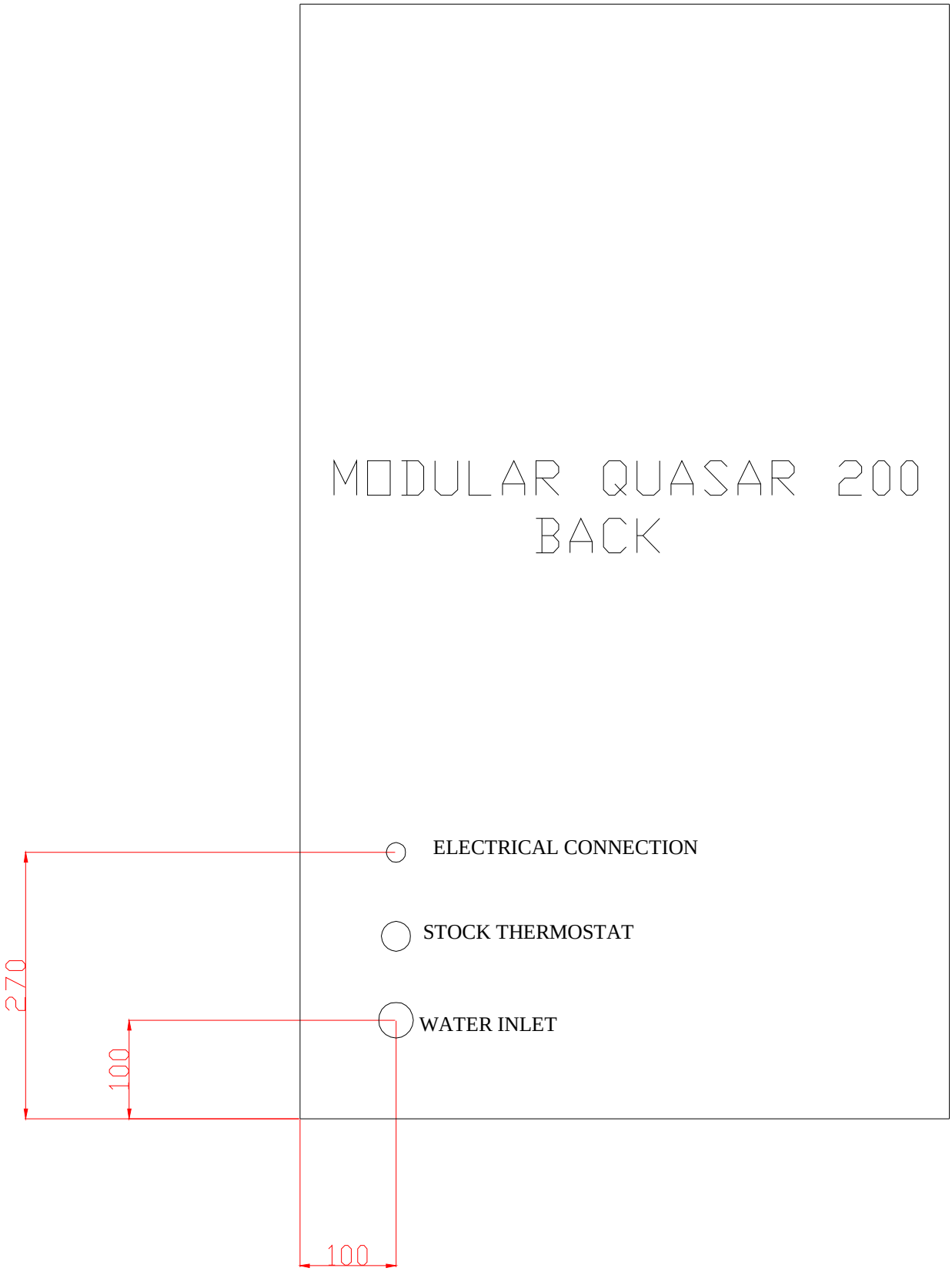
# SPECIFICACIONS

**Models:** ***QUASAR 20/30/40/40S/50/60/90/130/150***




* HEIGHT Z REPRESENTS MINIMUM MACHINE HEIGHT. IF LEGS ARE PLACED UNDER MACHINE, THEN ADD AN EXTRA 80 MM.*

| MODEL | X | Y | Z | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|---|---|---|
| QUASAR 20 C | 405 | 510 | 690 | 60 | 35 | 65 | 123 | 45 | 65 | 105 |
| QUASAR 30 C | 405 | 510 | 745 | 60 | 35 | 65 | 123 | 45 | 65 | 105 |
| QUASAR 40 C | 405 | 510 | 870 | 60 | 35 | 65 | 123 | 45 | 65 | 105 |
| QUASAR 40S/50 C | 515 | 555 | 870 | 60 | 42 | 74 | 123 | 65 | 75 | 105 |
| QUASAR 60 C | 595 | 555 | 995 | 60 | 42 | 74 | 123 | 65 | 75 | 105 |
| QUASAR 90 C | 675 | 555 | 995 | 60 | 42 | 74 | 123 | 65 | 75 | 105 |
| QUASAR 130 C | 845 | 555 | 995 | 60 | 42 | 74 | 123 | 65 | 75 | 105 |


MODULAR QUASAR 200
BACK
ELECTRICAL CONNECTION
STOCK THERMOSTAT
WATER INLET
270
100
100

## TECHNICAL DATA

| MODEL | COOLING WATER USAGE L/HOUR (1) | ICE PRODUCTION WATER USAGE L/HOUR (1) | TOTAL WATER USAGE L/HOUR (1) | NET WEIGHT (KG) | DIMENSIONS CRATED X*Y*Z | GROSS WEIGHT (KG) | VOLUME ($M^3$) |
|---|---|---|---|---|---|---|---|
| QUASAR 20C A | | 4 | 4 | 36 | 490x595x765 | 41 | 0.22 |
| QUASAR 20C W | 15 | 4 | 19 | 36 | 490x595x765 | 41 | 0.22 |
| QUASAR 30C A | | 4 | 4 | 39 | 490x595x830 | 44 | 0.24 |
| QUASAR 30C W | 15 | 4 | 19 | 39 | 490x595x830 | 44 | 0.24 |
| QUASAR 40C A | | 5 | 5 | 42 | 490x595x960 | 46 | 0.28 |
| QUASAR 40C W | 25 | 5 | 30 | 42 | 490x595x960 | 46 | 0.28 |
| QUASAR 40SC A | | 5 | 5 | 48 | 610x640x960 | 56 | 0.37 |
| QUASAR 40SC W | 25 | 5 | 30 | 48 | 610x640x960 | 56 | 0.37 |
| QUASAR 50C A | | 7 | 7 | 48 | 610x640x960 | 56 | 0.37 |
| QUASAR 50C W | 33 | 7 | 40 | 48 | 610x640x960 | 56 | 0.37 |
| QUASAR 60C A | | 6 | 6 | 55 | 690x640x1080 | 66 | 0.47 |
| QUASAR 60C W | 35 | 6 | 41 | 55 | 690x640x1080 | 66 | 0.47 |
| QUASAR 90C A | | 11 | 11 | 60 | 770x640x1080 | 74 | 0.53 |
| QUASAR 90C W | 45 | 11 | 68 | 60 | 770x640x1080 | 74 | 0.53 |
| QUASAR 130C A | | 11 | 11 | 80 | 940x640x1080 | 95 | 0.65 |
| QUASAR 130C W | 53 | 11 | 64 | 80 | 940x640x1080 | 95 | 0.65 |
| QUASAR 150C A | | 11 | 11 | 137 | 930x640x1295 | 151 | 0.96 |
| QUASAR 150C W | 57 | 11 | 68 | 137 | 930x800x1295 | 151 | 0.96 |
| MQ 200 C A | | 11 | 11 | 98 | 900*650*1200 | 113 | 0.702 |
| MQ 200 C W | 70 | 11 | 81 | 98 | 900*650*1200 | 113 | 0.702 |

| MODEL | REFRIG. CHARGE | HIGH PRESSURE | | | | LOW PRESSURE | | TOTAL CURR. | FUSES | COMPRESSOR OUTPUT | TOTAL OUTPUT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MÍNIMUM | | MAXIMUM | | AVERAGE | | (2) | | (1) | (2) |
| | (GR) | $Kg/cm^2$ | Psi | $Kg/cm^2$ | Psi | $Kg/cm^2$ | Psi | (A) | (A) | (W) | (W) |
| QUASAR 20C A | 260 | 16 | 228 | 17 | 240 | 2.5 | 38 | 1.5 | 10 | 175 | 220 |
| QUASAR 20C W | 190 | 16 | 228 | 17 | 240 | 2.5 | 38 | 1.5 | 10 | 175 | 220 |
| QUASAR 30C A | 260 | 16 | 228 | 17 | 240 | 2.5 | 38 | 1.5 | 10 | 190 | 220 |
| QUASAR 30C W | 190 | 16 | 228 | 17 | 240 | 2.5 | 38 | 1.5 | 10 | 190 | 220 |
| QUASAR 40C A | 270 | 16 | 228 | 17 | 240 | 2.5 | 38 | 1.7 | 10 | 190 | 270 |
| QUASAR 40C W | 205/195 | 16 | 228 | 17 | 240 | 2.5 | 38 | 1.7 | 10 | 190 | 270 |
| QUASAR 40SC A | 330 | 16 | 228 | 17 | 240 | 2.5 | 38 | 1.7 | 10 | 190 | 270 |
| QUASAR 40SC W | 250 | 16 | 228 | 17 | 240 | 2.5 | 38 | 1.7 | 10 | 190 | 270 |
| QUASAR 50C A | 270 | 16 | 228 | 17 | 240 | 2.5 | 38 | 2 | 10 | 210 | 300 |
| QUASAR 50C W | 290 | 16 | 228 | 17 | 240 | 2.5 | 38 | 2 | 10 | 210 | 300 |
| QUASAR 60C A | 370/390 | 16 | 228 | 17 | 240 | 2.5 | 38 | 2.2 | 10 | 210 | 310 |
| QUASAR 60C W | 370 | 16 | 228 | 17 | 240 | 2.5 | 38 | 2.2 | 10 | 210 | 310 |
| QUASAR 90C A | 370/380 | 16 | 228 | 17 | 240 | 2.5 | 38 | 2.8 | 10 | 365 | 450 |
| QUASAR 90C W | 360 | 16 | 228 | 17 | 240 | 2.5 | 38 | 2.8 | 10 | 365 | 450 |
| QUASAR 130C A | 425 | 16 | 228 | 17 | 240 | 2.5 | 38 | 3 | 10 | 440 | 500 |
| QUASAR 130C W | 425 | 16 | 228 | 17 | 240 | 2.5 | 38 | 3 | 10 | 440 | 500 |
| QUASAR 150C A | 1000 | 16 | 228 | 17 | 240 | 2.5 | 38 | 4.5 | 10 | 900 | 980 |
| QUASAR 150C W | 1000 | 16 | 228 | 17 | 240 | 2.5 | 38 | 4.5 | 10 | 900 | 980 |
| MQ 200 C A | 400 | 16 | 228 | 17 | 240 | 2.5 | 38 | 6 | 10 | 440 | 1000 |
| MQ 200 C W | 340 | 16 | 228 | 17 | 240 | 2.5 | 38 | 6 | 10 | 440 | 1000 |

1) Data obtained at room temperature (20°C), water introduced at 15°C; water quality = 500ppm

2) Maximum consumption obtained at room temperature = 43°, according to UNE climate classification Class T (Tropicalised).

NOTE: Expansion controlled by capillary.

# PRODUCTION TABLES FOR ICE CUBE MAKERS (KG/DAY)

## *QUASAR 20 C*

ROOM TEMPERATURE °C

| | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|
| 45 | 25 / 22 | 27 / 20 | 28 / 19.5 | 29 / 19 | 30 / 18 | 30.5 / 17 | 32 / 16 |
| 40 | 24 / 24 | 25 / 22 | 27 / 20 | 28 / 19.5 | 29 / 19 | 30 / 18 | 31 / 17 |
| 35 | 22 / 25 | 24 / 24 | 25 / 22 | 27 / 20 | 28 / 19.5 | 29 / 19 | 30 / 18 |
| 30 | 20 / 26 | 22 / 25 | 24 / 24 | 25 / 22 | 27 / 20 | 28 / 19.5 | 29 / 19 |
| 25 | 19 / 28 | 20 / 26 | 22 / 25 | 23 / 24 | 25 / 22 | 27 / 20 | 28 / 19.5 |
| 20 | 18 / 30 | 19 / 28 | 20.4 / 26 | 22 / 25 | 23 / 24 | 25 / 22 | 27 / 20 |
| 15 | 17 / 31 | 18 / 30 | 19 / 28 | 20.5 / 26 | 22 / 25 | 23 / 24 | 25 / 22 |
| 10 | 16 / 32 | 17 / 31 | 18 / 30 | 19 / 28 | 20.5 / 26 | 22 / 25 | 23 / 23 |

## *QUASAR 30 C*

| | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|
| 45 | 25 / 26 | 27 / 24 | 28 / 23 | 29 / 22 | 30 / 21 | 30.5 / 20 | 32 / 19 |
| 40 | 24 / 28 | 25 / 26 | 27 / 24 | 28 / 23 | 29 / 22 | 30 / 21 | 31 / 20 |
| 35 | 22 / 29 | 24 / 28 | 25 / 26 | 27 / 24 | 28 / 23 | 29 / 22 | 30 / 21 |
| 30 | 20 / 31 | 22 / 29 | 24 / 28 | 25 / 26 | 27 / 24 | 28 / 23 | 29 / 22 |
| 25 | 19 / 33 | 20 / 31 | 22 / 29 | 23 / 28 | 25 / 26 | 27 / 24 | 28 / 23 |
| 20 | 18 / 35 | 19 / 33 | 20.4 / 31 | 22 / 29 | 23 / 28 | 25 / 26 | 27 / 24 |
| 15 | 17 / 37 | 18 / 35 | 19 / 33 | 20.5 / 30.5 | 22 / 29 | 23 / 28 | 25 / 26 |
| 10 | 16 / 38 | 17 / 37 | 18 / 35 | 19 / 33 | 20.5 / 30.5 | 22 / 29 | 23 / 27.5 |

## *QUASAR 40 C*

ROOM TEMPERATURE °C

| | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|
| 45 | 25 / 35 | 26 / 33 | 28 / 32 | 29 / 31 | 30 / 30 | 30.5 / 29 | 32 / 27 |
| 40 | 24 / 37 | 25 / 35 | 26 / 33 | 28 / 32 | 29 / 31 | 30 / 30 | 30.5 / 29 |
| 35 | 22 / 38 | 24 / 37 | 25 / 35 | 26 / 33 | 28 / 32 | 29 / 31 | 30.5 / 30 |
| 30 | 21 / 40.5 | 22 / 38 | 24 / 37 | 25 / 35 | 26 / 33 | 28 / 32 | 29 / 31 |
| 25 | 20 / 42 | 21 / 40.5 | 22 / 38 | 24 / 37 | 25 / 35 | 26 / 33 | 28 / 32 |
| 20 | 19 / 44 | 20 / 42 | 21 / 40.5 | 22 / 38 | 24 / 37 | 25 / 35 | 26 / 33 |
| 15 | 18 / 45 | 19 / 44 | 20 / 42 | 21 / 40.5 | 22 / 38 | 24 / 37 | 25 / 35 |
| 10 | 17 / 47 | 18 / 45 | 19 / 44 | 20 / 42 | 21 / 40.5 | 22 / 38 | 24 / 37 |

## *QUASAR 40S C*

| | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|
| 45 | 31 / 36 | 32 / 34 | 33 / 31 | 33.5 / 30 | 34 / 28 | 35 / 27 | 36 / 25 |
| 40 | 29 / 38 | 31 / 36 | 32 / 34 | 33 / 31 | 33.5 / 30 | 34 / 28 | 35 / 27 |
| 35 | 27 / 40 | 29 / 38 | 31 / 36 | 32 / 34 | 33 / 31 | 33.5 / 30 | 34 / 28 |
| 30 | 25 / 41 | 27 / 40 | 29 / 38 | 31 / 36 | 32 / 34 | 33 / 31 | 33.5 / 30 |
| 25 | 24 / 43 | 25 / 41 | 27 / 40 | 29 / 38 | 31 / 36 | 32 / 34 | 33 / 31 |
| 20 | 23 / 45 | 24 / 43 | 25 / 41 | 27 / 40 | 29 / 38 | 31 / 36 | 32 / 34 |
| 15 | 22 / 47 | 23 / 45 | 24 / 43 | 25 / 41 | 27 / 40 | 29 / 38 | 31 / 36 |
| 10 | 21 / 49 | 22 / 47 | 23 / 45 | 24.5 / 43 | 25 / 41 | 27 / 40 | 30 / 38 |

## *QUASAR 50 C*

| | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|
| 45 | 25 / 41 | 26 / 39 | 27 / 38 | 28 / 36 | 29 / 35 | 30 / 34 | 31 / 33 |
| 40 | 24 / 43 | 25 / 41 | 26 / 39 | 27 / 38 | 28 / 36 | 29 / 35 | 30 / 34 |
| 35 | 22 / 46 | 24 / 43 | 25 / 41 | 26 / 39 | 27 / 38 | 28 / 36 | 29 / 35 |
| 30 | 20 / 51 | 22 / 46 | 24 / 43 | 25 / 41 | 26 / 39 | 27 / 38 | 28 / 36 |
| 25 | 19 / 54 | 20 / 51 | 22 / 46 | 24 / 43 | 25 / 41 | 26 / 39 | 27 / 38 |
| 20 | 18 / 57 | 19 / 54 | 20 / 51 | 22 / 46 | 24 / 43 | 25 / 41 | 26 / 39 |
| 15 | 17 / 60 | 18 / 57 | 19 / 54 | 20 / 51 | 22 / 46 | 24 / 43 | 25 / 41 |
| 10 | 16 / 64 | 17 / 60 | 18 / 57 | 19 / 54 | 20 / 51 | 22 / 46 | 24 / 43 |

## *QUASAR 60 C*

| | 5 | 10 | 15 | 20 | 25 | 30 | 35 |
|---|---|---|---|---|---|---|---|
| 45 | 29 / 47 | 30 / 45 | 31 / 44 | 32 / 43 | 33 / 41 | 34 / 40 | 35 / 39 |
| 40 | 28 / 49 | 29 / 47 | 30 / 45 | 31 / 44 | 32 / 43 | 33 / 41 | 34 / 40 |
| 35 | 26 / 52 | 28 / 49 | 29 / 47 | 30 / 45 | 31 / 44 | 32 / 43 | 33 / 41 |
| 30 | 24 / 59 | 26 / 52 | 28 / 49 | 29 / 47 | 30 / 45 | 31 / 44 | 32 / 43 |
| 25 | 22 / 62 | 24 / 59 | 26 / 52 | 28 / 49 | 29 / 47 | 30 / 45 | 31 / 44 |
| 20 | 21 / 65 | 22 / 62 | 24 / 59 | 26 / 52 | 28 / 49 | 29 / 47 | 30 / 45 |
| 15 | 20 / 68 | 21 / 65 | 22 / 62 | 24 / 59 | 26 / 52 | 28 / 49 | 29 / 47 |
| 10 | 19 / 72 | 20 / 68 | 21 / 65 | 22 / 62 | 24 / 59 | 26 / 52 | 28 / 49 |

**WATER TEMPERATURE (°C)**

Water quality= 500 ppm (240 Micromh/cm)

**Min/cycle**

**Kg/day**

### *QUASAR 90 C*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **45** | 24 71 | 26 66 | 28 61 | 29 59 | 30 57 | 31 55 | 32 53 |
| **40** | 23 74 | 24 71 | 26 66 | 28 61 | 29 59 | 30 57 | 31 55 |
| **35** | 22 77 | 23 74 | 24 71 | 26 66 | 28 61 | 29 59 | 30 57 |
| **30** | 21 83 | 22 77 | 23 74 | 24 71 | 26 66 | 28 61 | 29 59 |
| **25** | 20 85 | 21 83 | 22 77 | 23 74 | 24 71 | 26 66 | 28 61 |
| **20** | 19 90 | 20 85 | 21 83 | 22 77 | 23 74 | 24 71 | 26 66 |
| **15** | 18 95 | 19 90 | 20 85 | 21 83 | 22 77 | 23 74 | 23 71 |
| **10** | 17.5 97 | 18 95 | 19 90 | 20 85 | 21 83 | 22 77 | 223 74 |
| | **5** | **10** | **15** | **20** | **25** | **30** | **35** |

### *QUASAR 130 C*

| | | | | | | |
|---|---|---|---|---|---|---|
| 24 99 | 26 92 | 28 85 | 29 81 | 30 79 | 31 77 | 32 74 |
| 23 103 | 24 99 | 26 92 | 28 85 | 29 81 | 30 79 | 31 77 |
| 22 108 | 23 103 | 24 99 | 26 92 | 28 85 | 29 81 | 30 79 |
| 21 114 | 22 108 | 23 103 | 24 99 | 26 92 | 28 85 | 29 81 |
| 20 119 | 21 114 | 22 108 | 23 103 | 24 99 | 26 92 | 28 85 |
| 19 125 | 20 119 | 21 114 | 22 108 | 23 103 | 24 99 | 26 92 |
| 18 132 | 19 125 | 20 119 | 21 114 | 22 108 | 23 103 | 24 99 |
| 17 136 | 18 132 | 19 125 | 20 119 | 21 114 | 22 108 | 23 103 |
| **5** | **10** | **15** | **20** | **25** | **30** | **35** |

### *QUASAR 150 C*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **45** | 24 99 | 26 92 | 28 85 | 29 81 | 30 79 | 31 77 | 32 74 |
| **40** | 23 103 | 24 99 | 26 92 | 28 85 | 29 81 | 30 79 | 31 77 |
| **35** | 22 108 | 23 103 | 24 99 | 26 92 | 28 85 | 29 81 | 30 79 |
| **30** | 21 114 | 22 108 | 23 103 | 24 99 | 26 92 | 28 85 | 29 81 |
| **25** | 20 119 | 21 114 | 22 108 | 23 103 | 24 99 | 26 92 | 28 85 |
| **20** | 19 125 | 20 119 | 114 | 108 | 23 103 | 24 99 | 26 92 |
| **15** | 18 132 | 19 125 | 119 | 114 | 22 108 | 23 103 | 24 99 |
| **10** | 17 136 | 18 132 | 19 125 | 20 119 | 21 114 | 22 108 | 23 103 |
| | **5** | **10** | **15** | **20** | **25** | **30** | **35** |

### *MODULAR QUASAR 200 C*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **45** | 19.5 151 | 20 143 | 21 138 | 23 126 | 26 110 | 27.5 99 | 28.5 92 |
| **40** | 18.5 160 | 19.5 151 | 20 143 | 21 138 | 23 126 | 26 110 | 27.5 99 |
| **35** | 16.5 174 | 18.5 160 | 19 151 | 19.5 145 | 21.5 131 | 23 125 | 26 110 |
| **30** | 15.5 187 | 16.5 174 | 18.5 160 | 19 150 | 20 143 | 21.5 133 | 23 125 |
| **25** | 14.5 193 | 15.5 187 | 16.5 174 | 17 168 | 19 151 | 20 140 | 21.5 133 |
| **20** | 14 208 | 14.5 193 | 15.5 187 | 16 180 | 18.5 160 | 19 152 | 20 140 |
| **15** | 13.5 209 | 14 208 | 14.5 193 | 15.5 185 | 16.5 174 | 18.5 158 | 19 152 |
| **10** | 12.5 210 | 13.5 210 | 14 204 | 15 191 | 15.5 187 | 16 176 | 18.5 158 |
| | **5** | **10** | **15** | **20** | **25** | **30** | **35** |

**WATER TEMPERATURE (°C)**

Water quality= 500 ppm (240 Micromh/cm)

## DELIVERY & UNPACKING

Upon receipt, thoroughly inspect the packing container. If there appears to be damage to the container contact the shipper immediately. Unpack unit in the presence of delivery personnel noting any damage on the waybill.

Packing bears the "Green Point" on all models according to the European Directives on management of Packaging and Waste Disposal.

Be sure to include model name and serial number on all claims. Serial number is located in the following three places:

***Packing***

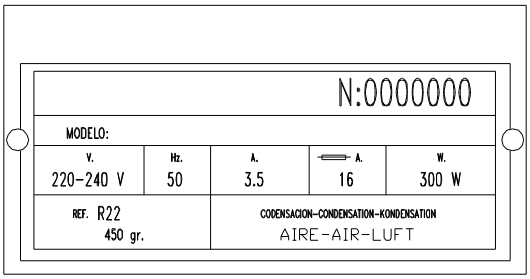
There is a label stick onto the cardboard packing bearing this serial number (1).

***Machine body***

On the machine's rear panel (1).

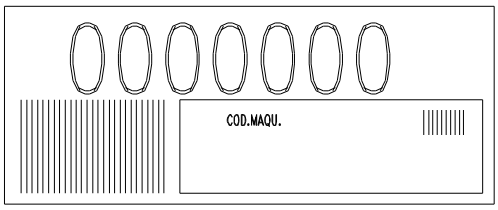
***Rating plate and serial number***

Located at the back of the machine.




Water cooled machines: check that the drainage hose at the back of the machine is in good condition.

Verify that the installation kit is inside the bin, and has the following pieces: scoop, 3/4' water hose, two small filters and user manual.




**WARNING: DO NOT LEAVE PACKING MATERIALS (PLASTIC BAGS, CARDBOARD BOXES, ETC.) WITHIN REACH OF CHILDREN.**

## INSTALLATION

The ice cube maker is delivered on a small wooden pallet and is protected with a cardboard box and packaging. Loosen the cardboard box by cutting the straps, then lift vertically.

After having removed the packaging, make sure the machine is complete. If in doubt do not use it and go to the distributor who sold it to you.

This operation has to be performed with the wooden base structure firmly placed on the ground. All packaging elements (plastic bags, cartons, etc..) must not be left at children's reach, since they are a potential source of danger.

Place the machine where it is to be installed, and verify, using a level control, that the machine is in a horizontal position.

**CAUTION:**

If the gap between the back of the machine and the wall of the room/bar is not sufficient, or if it is going to receive hot air from another machine, we strongly advise, in case of not being able to change the location of the machine, to **INSTALL A WATER-COOLED MACHINE.**

Bear in mind the previous considerations if the premises where the machines is located are very dusty, or smoky. If possible make arrangements so that the machine may be moved front-wise in order to carry out maintenance.

***Recommended Placement of Unit***

QUASAR machines are intended to operate at room temperature between 5°C and 43°C and with water temperature ranging between 5°C and 35°C. Below recommended minimum temperatures, ice cubes will be un-stick correctly and may form a slab or block of ice. Operation carried out over maximum recommended temperatures can result in shorter compressor life and decreased production.

Air-cooled units receive air input via front of machine and expel air through rear grill.

**IMPORTANT!**

If front and/or rear ventilation is inadequate, obstructed, or in close proximity to other heat producing machinery, USE OF A WATER-COOLED UNIT is strongly recommended.

Water inlet tube should not pass near heat sources: water entering the machine should be as cold as possible, but always above 5ºC.

The above mentioned also applies should unit be installed in an area where dust, smoke, or other airborne pollutants may be present. Units—especially air-cooled—should not be installed in kitchens. To facilitate

access to condenser and/or water pressure valve, allow sufficient space at front of the machine. Be sure that flooring is firm and even.

***Water and Drainage***

Water quality influences ice hardness, flavour, and quality as well as condenser life.

Keep in mind the following points:

a) WATER IMPURITIES: Major impurities are eliminated by filters provided. Filters should be cleaned regularly depending on purity of water. For minor impurities we recommend installing a 5-micron filter (Provided with the unit: Part # ITV 207499).

b) WATER WITH MORE THAN 500 PPM: Ice will be less hard and tend to adhere. Lime deposits may impede proper function. In water cooled models, condenser obstruction is likely. Installation of a high quality water softener is recommended.

c) CHLORINATED WATER: Chlorine taste can be avoided by installing a carbon filter (Part # ITV 207509).

**(NOTE: You may encounter water with all aforementioned properties.)**

d) PURIFIED WATER: A 10% reduction in overall production may occur.

***Connecting Unit To Water Source***

•Use 1.3 m. flexible tube (with two filters attached) provided. NOTE: We advise using a single faucet fixture .

•Water pressure should be between 0.7 and 6 Kgs/cm2. (10/85 Psi.)

•If water pressure exceeds these values, installation of appropriate corrective units will be necessary.

•It is important that water tubing does not come close to or in contact with any heat sources or heat generated by unit as this could decrease production.

***Connecting Unit To Drain (Water Cooled Models)***

•Drain must be located at least 150mm. below machine level. Drain tube must have an inner diameter of 30mm. with a minimum gradient of 3 cm per metre.

***Electrical connection***

• Unit is provided with a 1.5 m cord and Schucko socket.

• It is recommended to install a switch and adequate fuses. Nominal voltage and intensity are indicated on rating plate as well as on this manual's technical pages. Voltage fluctuations greater than 10% can cause problems or prevent machine from starting.

• Line to base of plug must have a minimum section=2.5 mm2.

• Ensure voltage indicated on rating plate corresponds to that of mains supply.

***Machine levelling***

Place machine where it is required, and level the machine ONCE all four legs have been screwed on

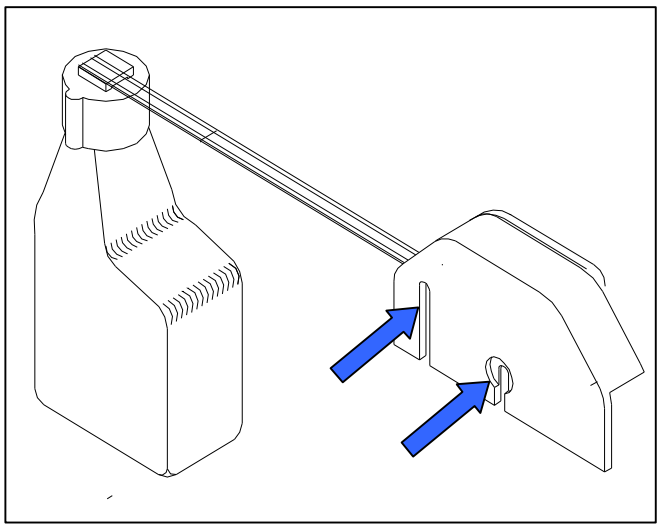
***Space requirements***

There should be a 150 mm gap on sides and top of the machine so as to allow air to circulate and prevent heat build-up.

***Float (buoy) valve level***

This valve is factory set, but may need to be adjusted if mains water pressure is very high or very low. To do so, loosen the two small screws which connect the micro-switch to the steel support. Move micro-switch as required and tighten screws. Water level must be about 5mm below the evaporator coil to, otherwise there may be difficulty in releasing cubes in winter.

Note that if mains pressure is subject to large fluctuations, it will be difficult to maintain a constant water level, in this case it may be advisable to install a pressure regulator on the water mains line.



**IMPORTANT!**

Supply socket must be properly earthed. Be sure to check standard for country where appliance is going to be installed.

## OPERATION

### *Preliminary Check*

a) Is machine levelled?

b) Are voltage and frequency of main supply the same as indicated on rating plate?

c) Is drainage system functioning?

d) Is air circulation and room temperature adequate? (Air-cooled models)

| | ROOM TEMPERATURE | WATER TEMPERATURE |
|---|---|---|
| **MAXIMUM** | 43° C | 35° C |
| **MINIMUM** | 5° C | 5° C |

e) Is water pressure adequate?

| | |
|---|---|
| **MAXIMUM** | 0.7 Kg/cm2 |
| **MINIMUM** | 6 Kg/cm2 |

**ATTENTION:** Check that voltage and mains frequency are the same as in the rating plate.

#### *Starting up*

Once preliminary check has been completed (ventilation, connections, temperature, etc.), proceed as follows:

1) Open water faucet. Check for leaks.

2) Plug machine into electricity mains supply.

3) Ensure that there are no strange vibrations or scraping sounds

4) Check that the water curtain moves freely

6) After 10 minutes, check that the water bin has no leaks on the maximum level overflow.

7) At the cycle's end, there should be frost formed on the compressor inlet tube except for the last 50 mm.

**IMPORTANT!**

Be sure voltage and frequency of main supply correspond to indicated levels on rating plate.

***ADVISE THE FINAL USER ON MAINTENANCE PROCEDURES WHICH ARE NOT INCLUDED IN WARRANTY***, AS WELL AS THOSE BREAKDOWNS CAUSED BY NEGLECT OF PROPER MAINTENANCE PROCEDURES.

## ADJUSTMENTS

***Condenser water valve pressostat***

(UP TO Q 40S C WATER COOLED)

This pressostat controls high pressure by opening and closing the condenser water valve. Differential is a fixed 1 Kg/cm2 (14 Psi). The valve closes at 16 Kg/cm2 (228 Psi.) which is equivalent to a water exit temperature of 38ºC. below this pressure it will be difficult to unstick the cubes in the defrosting stage. Above this pressure, compressor life and ice production are both reduced. Pressure can be increased by turning the small screw clockwise. A full turn is equivalent to about 1.5 Kg/cm2.

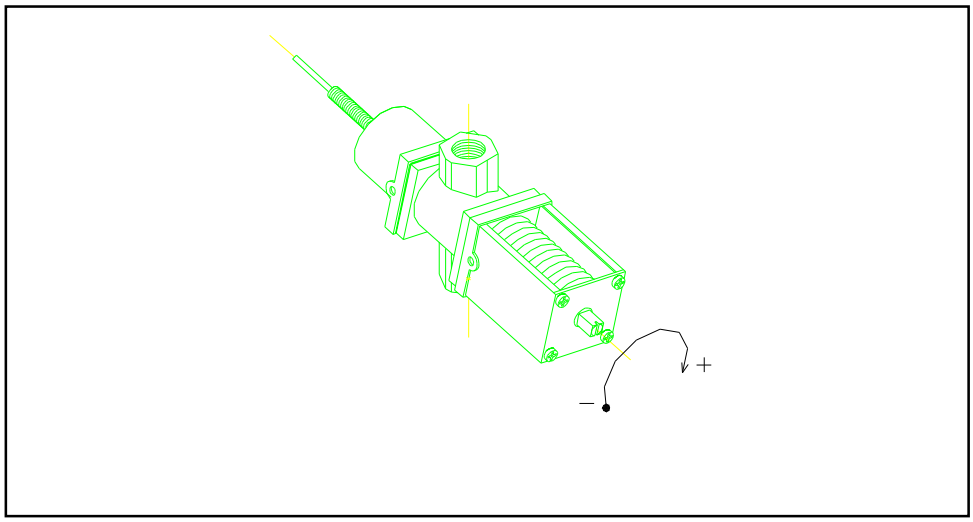
***Water Pressure Control Valve***

(FROM Q 50 C WATER COOLED)

•High pressure should be maintained at 16-17 bar (228-240 Psi) must be maintained which corresponds to a water temperature of 40°C ( exit temperature).

•When temperature exceeds 32°C, pressure and temperature of water at exit increase.

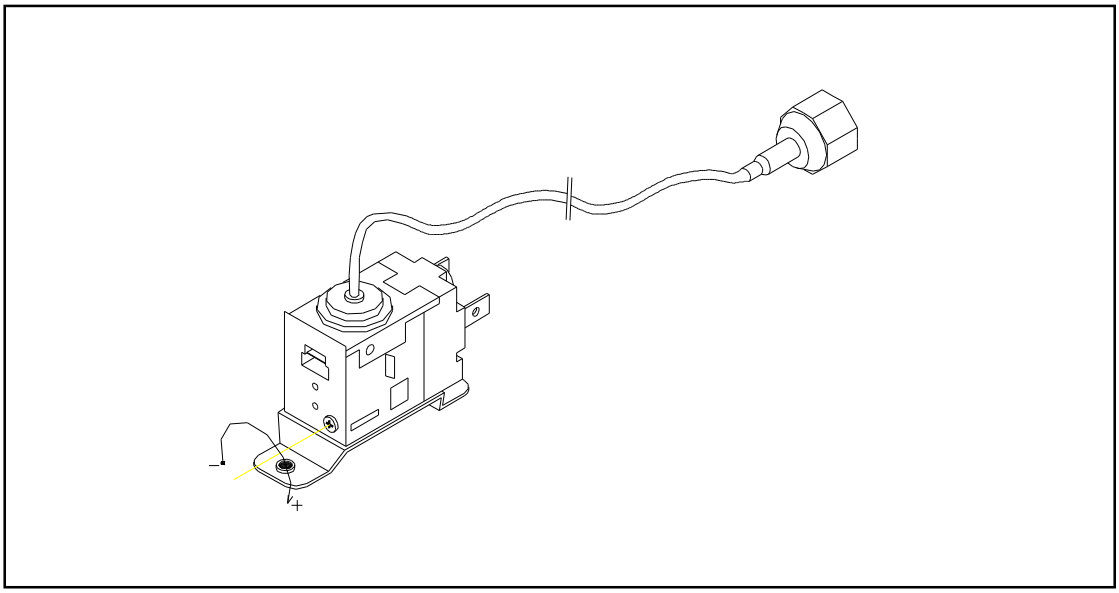
REGULATION: Water pressure and temperature can be decreased by regulating screw clockwise.



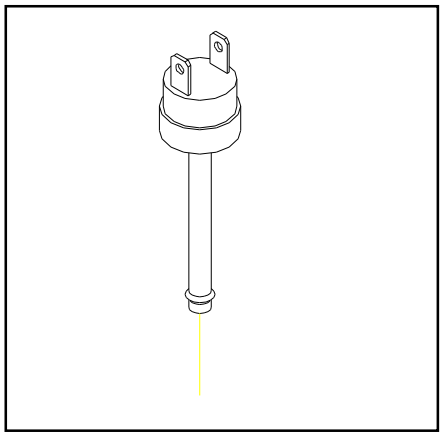
***Pressure Control***

***Fan pressostat (air condensation)***

Pressure Control operates on high pressure by starting and/stopping fan. Differential is fixed. (1Kg/cm2 or 14 Psi.) Cut-off pressure must be 16 Kg/cm2 (228 Psi) Low pressure values may cause gearbox malfunction. Pressure values higher than 16 Kg/cm2 may shorten compressor life and diminish ice production.
Pressure can be regulated by rotating screw on Pressure Control Valve (clockwise to increase pressure). One rotation equals 1.5 Kg/cm2.



***Safety pressostat***



This Security device trips when discharge pressure is too high. Pressure might exceed the limit when:
a) Air circulation is not sufficient, room temperature is too high or condenser is dirty (air condensation models).
b) There is not enough water in the system or water tem too high (water-cooled models).

**HIGH PRESSURE REGULATION (fixed):**

30-22 Kg/cm2 (420-308 Psi)

## MAINTENANCE AND CLEANING INSTRUCTIONS

### IMPORTANT!

**Maintenance and cleaning procedures as well as problems derived from failing to carry them out are not covered by the warranty.

Proper maintenance is essential to obtain favourable ice quality and optimum function of unit. Frequency depends on water quality and characteristics of room where unit is installed.

### IMPORTANT:

** Maintenance/cleaning procedures should take place at least once every six months. If concentration of air pollutants is high, complete procedures on a monthly basis.

### MAINTENANCE TABLE

| PROCEDURE | MONTHLY | QUARTERLY | BIANNUAL | YEARLY | BIENNIAL | DURATION |
|---|---|---|---|---|---|---|
| Air condenser cleaning | 0000 | 0000 | **** | **** | **** | 30 minutes |
| Water condenser cleaning | | | | #### | **** | 90 minutes |
| Water circuit cleaning | | #### | #### | **** | **** | 45 minutes |
| Sanitary cleaning | | #### | #### | **** | **** | 30 minutes |
| Water filter cleaning/replacement | #### | #### | **** | **** | **** | 30 minutes |
| Stock deposit cleaning. | &&& | &&& | &&& | &&& | &&& | -- |
| Unit cleaning | &&& | &&& | &&& | &&& | &&& | -- |

0000 Depending on room characteristics
#### Depending on water quality
&&&Carried out by owner
**** ESSENTIAL

**Maintenance and cleaning procedures as well as problems derived from failing to carry them out ARE NOT COVERED BY THE WARRANTY**.

Service personnel will invoice you for travel expenses, time invested and materials required for maintenance and cleaning of unit.

**MAINTENANCE AND CLEANING PROCEDURES**

**WARNING: Unit should always be disconnected during maintenance/cleaning procedures.**

***Water Condenser***

1) Disconnect machine.

2) Close water faucet.

3) Disconnect water entry/exit from condenser.

4) Prepare a solution of 50% phosphoric acid in distilled water.

5) Distribute solution through condenser. (Solution is more effective at 35°-40°C).

**WARNING!**

**DO NOT USE HYDROCHLORIC ACID**

***Air Condenser***

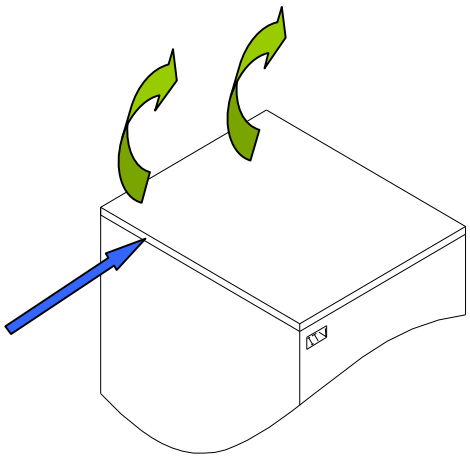
1) Disconnect machine.

2) Close water faucet.

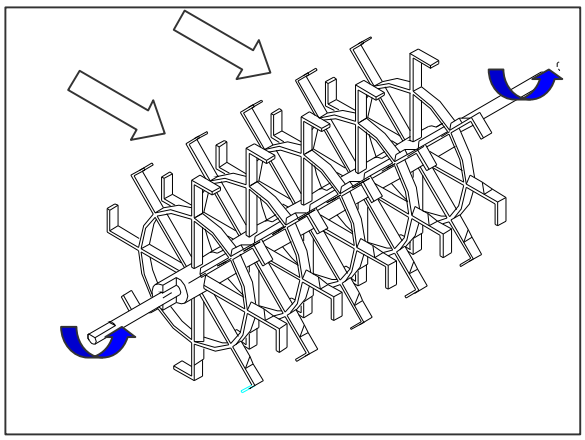
3) Clean condenser using a vacuum cleaner, brush or low pressure air.

***Removing scale (lime) from ice production mechanisms***

1) Close the water inlet faucet.
2) Remove lid from top of machine by pulling upwards from the rear part of the lid. Some force is required for this it may be better to prise it open with a flat screwdriver.



3) Hold agitator paddles so that water pan releases water.



4) Once the water pan returns to its horizontal position again, switch off the machine. Pour 3 litres of water and one half of di-caloid lr) into water pan
5) Allow the solution to work for 20 or 30 minutes, occasionally turning the paddles by hand so that they are also cleaned.
6) Turn on the machine and hold paddles so that pan releases water.
7) Open the water inlet faucet and allow the water pan to fill with water.
8) Dissolve a spoonful of sodium bicarbonate in a glass of water, then pour solution into water tray. Wait 5 minutes.
9) Repeat (6) several times until water pan has been thoroughly rinsed.

**WARNING:** Discard ice produced during cleaning procedure.**

***Cleaning the ice bin***

1) Unplug the machine, turn off water supply, and empty storage bin of ice
2) Wipe with a kitchen cloth soaked in detergent
3) If white lime stains do not vanish, rub with some lemon or vinegar, wait for a few minutes and wipe with the cloth again.
4) Rinse with plenty of water, dry, and run the machine

***Cleaning the outside of the machine***

Follow the same procedure as for the ice bin.

***Cleaning the water inlet filters***

These round wire gasket filters placed on either end of the water hose to mains, often become blocked in the first few days of use, especially when the plumbing installation is new. Clean them under a jet of water.

### *Checking for water leaks*

This must be done whenever maintenance is carried out on the machine: check all water connections, braces, tubes and hoses in order to eliminate leaks and prevent breakages and flooding. Check that the valve closes tightly on models with an automatic cleaning system.

**SPECIAL ADVICE CONCERNING R-404 REFRIGERANT**

- R-404 is a mixture of 3 liquid-phase gases. On evaporating, the 3 component gases separate
- Always use the liquid phase valve (at the end of condenser or accumulator) for refills and purges.
- When replacing a compressor. wash inside of circuit with a suitable solvent + pump, dry with nitrogen, REPLACE THE DRIER WITH ONE SUITABLE FOR
- R-404, which must also have ANTI-ACID properties.
- If you need to add oil, use one which is specific for R-404 (POE). If you are in doubt, contact the machine manufacturer.
- If there is a leak anywhere in the circuit where R-404 in the GAS phase, and a refill of over 10% is required, then ALL THE GAS IN THE CIRCUIT MUST BE PURGED AND THEN REFILL AS DESCRIBED PREVIOUSLY (LIQUID PHASE VALVE)

# TROUBLESHOOTING

| PROBLEM | POSSIBLE CAUSES | SOLUTION |
|---|---|---|
| 1) None of the electrics work. | A) The machine is not plugged in. | A) Plug the machine. |
| | B) The line fuse has blown. | B) Replace fuse. |
| | C) The current line is wrongly connected in the junction box. | C) Check connections. |
| | D) The cut off micro-switch is faulty or wrongly adjusted. | D) Check and adjust or replace. |
| 2) All the electrics work except compressor. | A) Loose wire. | A) Check connections. |
| | B) Faulty relay. | B) Replace relay. |
| | C) Faulty Klixon. | C) Replace Klixon. |
| | D) Faulty compressor. | D) Replace compressor. |
| 3) All the electrics work but the compressor "Klixons" (cycles intermittently). | A) Voltage too low. | A) Check voltage. |
| | B) Dirty condenser. | B) Clean condenser. |
| | C) Obstruction in air circulation. | C) Move machine. |
| | D) Faulty fan | D) Change fan. |
| | E) Compressor's electrolitic condenser out of working | E) Replace condenser. |
| | F) Fan presostat faulty or wrongly adjusted. | F) Replace or adjust presostat. |
| | G) Safety pressostat out of order. | G) Replace. |
| | I) Water presostat valve faulty or wrongly adjusted. | I) Replace or adjust. |
| | J) Water inlet valve faulty or wrongly adjusted. | J) Adjust or replace. |
| | K) Non condensable gases in system. | K) Purge system and charge refrigerant. |

| PROBLEM | POSSIBLE CAUSES | SOLUTION |
|---|---|---|
| 4) Everything appears to be running correctly but no ice made in the evaporator. | A) Freezing system faulty. (dirty condenser, Presostato o válvula entrada agua de condensación averiadas o mal reguladas o falta de refrigerante). | A) Check system. |
| | B) Hot gas valve faulty (outlet pipe temperature would indicate this). | B) Repalce hot gas valve. |
| 5) The ice cubes form correctly but do not unstick. | A) The hot gas valve does not open. | A) Check valve. |
| | B) The lower cam micro-switch is faulty or wrongly connected. | B) Reemplazar micro o conectarlo correctamente. |
| | (Only on water condensed machines) Presostat faulty or opens too much | C) Regulate water presostat to 40ºC-43ºC. |
| | D) Faulty presostat. | D) Check or adjust presostat. |
| 6) Low ice production. | A) Water level in pan too low or too high. | A) Check water level. Look at the position of the buoy. |
| | B) Blocked condenser. | B) Clean condenser. |
| | B) In water-cooled machines: dirty condenser, badly adjusted valve, pressostat, faulty water inlet valve or faulty pressostatic valve. | B) Clean condenser; check, adjust or replace. |
| | C) Faulty hot gas valve, doesn't close totaly. | C) Replace. |
| | D) Faulty fan or pressostat, faulty inlet cooling water valve. | D) Check fan and re-adjust pressostat or replace. |
| | E) Refrigerant charge too high or too low. | E) Adjust. |
| | F) Faulty water inlet valve: leaks and does not close fully. | F) Check and replace. |
| | G) Inefficient compressor. | G) Replace. |
| 7) A sheet of ice forms in pan . | A) Agitator motor micro-switch faulty. | A) Check micro-switch. |
| | B) Agitator motor faulty. | B) Check motor. |
| | C) Loose union bush pins | C) Tighten pins. |
| | D) Cable flexible cortado. | D) Cambiar |
| 8) The machine does not stop though the bin is full of cubes. | A) Connecting rod micro-switch faulty or in wrong position. | Check micro-switch. Place this correctly. |
| | B) Wrong pressure on this micro-switch spring. | B) Check spring pressure and replace it if it is necessary. |
| | C) In MQ 200 model termostat faulty. | C) Replace termostat. |
| 9) Cubes are formed normally for some cycles. Then the evaporator stops getting cold at some point. | A) Moisture in system. | A) Draw vacuum in installation by heating compressor and dehydrator. Load with the correct refrigerant. |
| | B) Foreing body blocking capillari at certain times. | B) Remove dehydrator. Unblock capillary and replace with new dehydrator. Draw vacuum and reload. |
| 10) The pan remains in stop position althought cubes have dropped out. | A) Connecting rod micro-swith faulty or in wrong position. | A) Replace or change position of micro-switch. |

| PROBLEM | POSSIBLE CAUSES | SOLUTION |
|---|---|---|
| 11) Pan does not free cubes or remains in am intermediary position. | A) Cam motor disconnected or in bad condition. | A) y B) Connect or replace cam motor.<br>ALWAYS change pin and wheel. |
| | B) Flexible pin or cam wheel broken. | |
| 12) Pan goes up and down constantly. | A) Agitator motor micro-switch badly connected or faulty. | A) Connect or replace micro-switch. |
| | B) Security micro badly connected or faulty. | B) Connect or replace micro-switch. |
| | C) Faulty rele | C) Replace rele. |
| 13) The evaporator gets cold. And there is no water in the pan. | A) Water supply turned off. | A) Turn on. |
| | B) Foreign bodies in water supply. | B) Clean water entry filters. |
| | C) The buoy wrongly positioned | C) Adjust buoy. |
| | D) Faulty buoy micro-switch. | D) Replace micro-switch. |
| | E) Faulty water intake electrovalve. | E) Replace electrovalve. |